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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/773,025
Filing Date: February 04, 2004
Appellant(s): ARMSTRONG, BRAD A.

Michael J. Fogarty, III
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed March 25th, 2011 appealing from the Office action mailed September 7th, 2010.

(1) Real Party in Interest

The examiner has no comment on the statement, or lack of statement, identifying by name the real party in interest in the brief.

(2) Related Appeals and Interferences

The following are the related appeals, interferences, and judicial proceedings known to the examiner which may be related to, directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal:

Those detailed by the Applicant in the Appeal Brief. Of particular note is the Appeal of U.S. Patent Application Serial No. 11/240,327 which is being concurrently appealed, is before the current examiner as well. Additionally, both the current and 11/240,327 present similar 37 C.F.R. 1.131 issues.

(3) Status of Claims

The following is a list of claims that are rejected and pending in the application: claims 9-19.

(4) Status of Amendments After Final

The examiner has no comment on the appellant's statement of the status of amendments after final rejection contained in the brief.

(5) Summary of Claimed Subject Matter

The examiner has no comment on the summary of claimed subject matter contained in the brief.

(6) Grounds of Rejection to be Reviewed on Appeal

The examiner has no comment on the appellant's statement of the grounds of rejection to be reviewed on appeal. Every ground of rejection set forth in the Office action from which the appeal is taken (as modified by any advisory actions) is being maintained by the examiner except for the grounds of rejection (if any) listed under the subheading "WITHDRAWN REJECTIONS." New grounds of rejection (if any) are provided under the subheading "NEW GROUNDS OF REJECTION."

(7) Claims Appendix

The examiner has no comment on the copy of the appealed claims contained in the Appendix to the appellant's brief.

(8) Evidence Relied Upon

5485171	Copper	4-1992
5521617	Imai	4-1994
4719538	Cox	12-1986
5703623	Hall	1-1996
5724106	Autry	3-1996
5291325	Elliott	3-1994
5623099	Schuster	8-1995

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 9, 11-12, 14 and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Copper et al. (US 5,485,171) in view of Imai et al. (US 5,521,617) and further in view of Elliott (US 5,291,325).

With respect to claim 9, Copper discloses, an image controller (3 in fig. 1) allowing control of an image generation device (1 in fig. 1) capable of creating at least two-dimensional imagery (col. 5, lines 35-64), the image controller comprising:

a single input member capable of being manipulated in six degrees of freedom by a human hand to control movement of the two-dimensional imagery (12 in fig. 2; col. 7, lines 41-47);

a circuit board having an upper surface and a lower surface (top and bottom of board supporting 22 in fig. 2, for example)

a proportional sensor, the proportional sensor indicates manipulation of the single input member (fig. 3; col. 2, lines 48-55);

one additional sensor (18 in fig. 2) located on the lower surface of the circuit board (board in fig. 2);

one button sensor (20 in fig. 2) located on the upper surface of the circuit board controls an ON/OFF function (col. 6, lines 54-57);

a transmitter (32 and 22 in fig. 2) allowing wireless communication of information from the controller to the image generation device, the information is useful to control the image generation device (col. 6, lines 54-67); and

a battery compartment adapted to hold a battery for powering the image controller (28 in fig. 2).

Copper does not expressly disclose control of three-dimensional imagery or a secondary input member.

Imai discloses, an image controller (fig. 16) allowing control of an image generation device (14-15 in fig. 1) capable of creating three-dimensional imagery (fig. 1), the image controller comprising:

a single input member capable of being manipulated in six degrees of freedom by a human hand to control movement of the three-dimensional imagery (trackball 21 is capable of being manipulated in six degrees of freedom and controls movement; fig. 3);

a circuit board (31 in fig. 4) having an upper surface (surface containing sensors 33, 44 in fig. 4) and a lower surface (bottom of 31 in fig. 4);

a sensor located on the circuit board, the sensor indicates manipulation of the single input member (41-44 in fig. 4, detects rotation of the trackball);

a secondary input member (22 in fig. 4) capable of being controlled by the human hand to effect bidirectional movement of the three-dimensional imagery on at least one axis independent of the control of three-dimensional imagery by the single input member (the ring, 22, effects movement up/down in the z axis; fig. 3);

two additional sensors (the two optical sensors 33 in fig. 3) located on the upper surface of the circuit board (33 in fig. 4), the two additional sensors indicate the bidirectional movement of the secondary input member (col. 6, lines 50-58);

Copper and Imai are analogous art because they are both from the same field of endeavor namely image controller device design.

At the time of the invention it would have been obvious to one of ordinary skill in the art to include the secondary input member of Imai around the single input member of Copper and locate the sensors on the circuit board.

The motivation for doing so would have been for the well-known benefits of increasing the functionality, displaying special 3D images and decreasing cost by locating the sensors on a single circuit board (Imai; col. 1, lines 15-22).

Neither Copper nor Imai expressly disclose button sensors to control a volume function.

Elliott discloses, an image controller allowing control of an image generation device, the image controller comprising:

two button sensors (14 in fig. 1a-b) located on the upper surface a circuit board (24 in figs. 4-5) control at least a volume function (figs. 1a-b).

Copper, Imai and Elliott are analogous art because they are all from the same field of endeavor namely design of image controllers for control of an image generation device.

At the time of the invention it would have been obvious to one of ordinary skill in the art to include the button sensors of Elliott on the upper surface of the Coppery/Imai circuit board.

The motivation for doing so would have been for the well-known benefit of increasing the functionality of the device and allowing it to also control the volume of the image generation device.

With respect to claim 12, Copper discloses, an image controller (3 in fig. 1) allowing control of an image generation device (1 in fig. 1), the image generation device capable of creating at least two-dimensional imagery (col. 5, lines 35-64), the image controller comprising:

a single input member capable of being manipulated in six degrees of freedom by a human hand to control movement of the two-dimensional imagery (12 in fig. 2; col. 7, lines 41-47);

a circuit board (board supporting 22 in fig. 2, for example)

a proportional sensor communicates with the circuit board (160 connects to 22 which is on the board; see fig. 3), the proportional sensor indicates manipulation of the single input member (fig. 3; col. 2, lines 48-55);

one button sensor (20 in fig. 2) communicates with the circuit board to control an ON/OFF function (col. 6, lines 54-57);

a transmitter (32 and 22 in fig. 2) allowing wireless communication of information from the controller to the image generation device (col. 6, lines 54-67); and

a battery compartment adapted to hold a battery for powering the image controller (28 in fig. 2).

Copper does not expressly disclose control of three-dimensional imagery or a secondary input member.

Imai discloses, an image controller (fig. 16) allowing control of an image generation device (14-15 in fig. 1) capable of creating three-dimensional imagery (fig. 1), the image controller comprising:

a single input member capable of being manipulated in six degrees of freedom by a human hand to control movement of the three-dimensional imagery (trackball 21 is capable of being manipulated in six degrees of freedom and controls movement; fig. 3);

a circuit board (31 in fig. 4);

a secondary input member (22 in fig. 4) capable of being controlled by the human hand to effect bidirectional control of imagery independent of the control of the three-dimensional imagery by the single input member (the ring, 22, effects movement up/down in the z axis; fig. 3);

two secondary input member sensors (the two optical sensors 33 in fig. 3) communicate with the circuit board (33 in fig. 4), the two secondary input member sensors indicate the bidirectional movement of the secondary input member (col. 6, lines 50-58);

Copper and Imai are analogous art because they are both from the same field of endeavor namely image controller device design.

At the time of the invention it would have been obvious to one of ordinary skill in the art to include the secondary input member of Imai around the single input member of Copper and locate the sensors on the circuit board.

The motivation for doing so would have been for the well-known benefits of increasing the functionality, displaying special 3D images and decreasing cost by locating the sensors on a single circuit board (Imai; col. 1, lines 15-22).

Neither Copper nor Imai expressly disclose button sensors to control a volume function.

Elliott discloses, an image controller allowing control of an image generation device, the image controller comprising:

two button sensors (14 in fig. 1a-b) communicate with a circuit board (24 in figs. 4-5) to control at least a volume function (figs. 1a-b).

Copper, Imai and Elliott are analogous art because they are all from the same field of endeavor namely design of image controllers for control of an image generation device.

At the time of the invention it would have been obvious to one of ordinary skill in the art to include the button sensors of Elliott on the upper surface of the Copper/Imai circuit board.

The motivation for doing so would have been for the well-known benefit of increasing the functionality of the device and allowing it to also control the volume of the image generation device.

With respect to claims 11 and 14, Copper, Imai and Elliott disclose the image controller of claims 9 and 12 (see above).

Elliott further discloses two button sensors located on the upper surface of the circuit board control channel switching (14 in fig. 1a-b).

At the time of the invention it would have been obvious to one of ordinary skill in the art to include the channel button sensors of Elliott on the upper surface of the Copper/Imai circuit board.

The motivation for doing so would have been for the well-known benefit of increasing the functionality of the device and allowing it to also control the channel of the image generation device.

With respect to claims 16-18, Copper, Imai and Elliott disclose the image controller of claims 9 and 11-12 (see above).

Copper further discloses, wherein the single input member is manipulated relative to a reference member (absent limitations further defining the reference member, the single input member of Copper is seen as being manipulated relative to the image generation device, 1 in fig. 1, for example).

Claims 10, 13, 15 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Copper et al. (US 5,485,171) in view of Imai et al. (US 5,521,617) and further in view of Elliott (US 5,291,325) and Cox (US 4,719,538).

With respect to claims 10 and 13, Copper, Imai and Elliott disclose the image controller of claims 9 and 12 (see above).

Neither Copper, Imai nor Elliott disclose that the proportional sensor is a capacitive type.

Cox discloses, proportional sensors which are of a capacitive type (col. 2, lines 63-69)

Cox, Copper, Imai and Elliott are analogous art because they are all from the same field of endeavor namely directional sensors.

At the time of the invention it would have been obvious to one of ordinary skill in the art to replace the resistive sensors of Copper with the capacitive accelerometers of Cox.

The motivation for doing so would have been to provide simplified construction and lower costs (Cox; col. 2, lines 23-27).

With respect to claim 15, Copper, Imai, Elliott and Cox disclose the image controller of claim 13 (see above).

Copper further discloses, a second proportional sensor (X axis strip) indicating rotation of the single input member (the input member "rocks" col. 8, lines 34-37; such rocking would result in a rotation about the pivot).

With respect to claim 19, Copper, Imai, Cox and Elliott disclose the image controller of claims 9 and 11-12 (see above).

Copper further discloses, wherein the single input member is manipulated relative to a reference member (absent limitations further defining the reference member, the single input member of Copper is seen as being manipulated relative to the image generation device, 1 in fig. 1, for example).

Claims 9, 11-12 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Autry et al. (US 5,724,106) in view of Hall et al. (US 5,703,623).

With respect to claim 9, Autry discloses, an image controller (124 in fig. 1) allowing control of an image generation device (118 -122 in fig. 1) capable of creating at least two-dimensional imagery (fig. 14a), the image controller comprising:

a single input member capable of being manipulated in six degrees of freedom by a human hand (the controller is wireless and seems clearly capable of being manipulated in six DOF);

a circuit board (plane in fig. 9b) having an upper surface (surface containing the trackball 910 in fig. 9b) and a lower surface (bottom of plane fig. 9b, which responds to trigger 913) a secondary input member (910 in fig. 9b) capable of being controlled by the human hand to effect bidirectional movement of the two-dimensional imagery on at least one axis (col. 11, lines 25-29);

two additional sensors (X and Y axis sensors) located on the upper surface of the circuit board, the two additional sensors indicate the bidirectional movement of the secondary input member (col. 11, lines 25-29);

one additional sensor located on the lower surface of the circuit board (sensor associated with trigger 913 in fig. 9b);

two button sensors located on the upper surface of the circuit board control at least a volume function (918 in fig. 9a; col. 12, lines 5-7);

one button sensor located on the upper surface of the circuit board (914 in fig. 9a) controls an ON/OFF function (col. 12, lines 1-2);

a transmitter allowing wireless communication of information from the controller to the image generation device, the information is useful to control the image generation device (932 in fig. 9a; col. 12, lines 24-31); and

a battery compartment adapted to hold a battery for powering the image controller (936 in fig. 9b; col. 12, lines 31-33).

Autry does not expressly disclose three-dimensional imagery creation nor a single input member capable of being manipulated in six degrees of freedom by a human hand to control movement of the three-dimensional imagery in six degrees of freedom.

Hall discloses, an image controller (13 in fig. 1) allowing control of an image generation device (12 in fig. 1) capable of creating three-dimensional imagery (col. 1, lines 34-46), the image controller comprising:

a single input member (1 in fig. 2) capable of being manipulated in six degrees of freedom by a human hand (device is clearly capable of being manipulated in six degrees of freedom by a human hand) to control movement of the three-dimensional imagery in six degrees of freedom (col. 6, lines 42-51);

a circuit board having an upper surface and a lower surface (1' in fig. 2);

a first proportional sensor (9 in figs. 2-3a) located on the upper surface of the circuit board (1’ in figs. 2-3a), the first proportional sensor indicates manipulation of the single input member (col. 7, lines 11-14)

a second proportional sensor (5 in figs. 2-3a) indicating rotation of the single input member (col. 7, lines 3-9).

Hall and Autry are analogous art because they are both from the same field of endeavor namely television remote controllers.

At the time of the invention it would have been obvious to one of ordinary skill in the art to include the three-dimensional imagery and three-dimensional movement sensors taught by Hall in the device of Autry.

The motivation for doing so would have been low manufacturing cost and to meet future 3D multimedia applications (Hall; col. 1, lines 34-43).

With respect to claims 11 and 14, Autry and Hall disclose the image controller of claims 9 and 12 (see above).

Autry further discloses two button sensors located on the upper surface of the circuit board control channel switching (916 in fig. 9a; col. 12, lines 3-4).

With respect to claim 12, Autry discloses, an image controller (124 in fig. 1) allowing control of an image generation device (118 -122 in fig. 1) capable of creating at least two-dimensional imagery (fig. 14a), the image controller comprising:

a single input member capable of being manipulated in six degrees of freedom by a human hand (the controller is wireless and seems clearly capable of being manipulated in six DOF);

a circuit board (plane in fig. 9b);

a secondary input member (910 in fig. 9b) capable of being controlled by the human hand to effect bidirectional movement of the two-dimensional imagery on at least one axis (col. 11, lines 25-29);

two additional sensors (X and Y axis sensors) located on the circuit board, the two additional sensors indicate the bidirectional movement of the secondary input member (col. 11, lines 25-29);

two button sensors located on the circuit board control at least a volume function (918 in fig. 9a; col. 12, lines 5-7);

one button sensor located on the circuit board (914 in fig. 9a) controls an ON/OFF function (col. 12, lines 1-2);

a transmitter allowing wireless communication of information from the controller to the image generation device, the information is useful to control the image generation device (932 in fig. 9a; col. 12, lines 24-31); and a battery compartment adapted to hold a battery for powering the image controller (936 in fig. 9b; col. 12, lines 31-33).

Autry does not expressly disclose three-dimensional imagery creation nor a single input member capable of being manipulated in six degrees of freedom by a human hand to control movement of the three-dimensional imagery in six degrees of freedom.

Hall discloses, an image controller (13 in fig. 1) allowing control of an image generation device (12 in fig. 1) capable of creating three-dimensional imagery (col. 1, lines 34-46), the image controller comprising:

a single input member (1 in fig. 2) capable of being manipulated in six degrees of freedom by a human hand (device is clearly capable of being manipulated in six degrees of freedom by a human hand) to control movement of the three-dimensional imagery in six degrees of freedom (col. 6, lines 42-51);

a circuit board (1' in fig. 2);

a first proportional sensor (9 in figs. 2-3a) located on the circuit board (1’ in figs. 2-3a), the first proportional sensor indicates manipulation of the single input member (col. 7, lines 11-14).

Hall and Autry are analogous art because they are both from the same field of endeavor namely television remote controllers.

At the time of the invention it would have been obvious to one of ordinary skill in the art to include the three-dimensional imagery and three-dimensional movement sensors taught by Hall in the device of Autry.

The motivation for doing so would have been low manufacturing cost and to meet future 3D multimedia applications (Hall; col. 1, lines 34-43).

Claims 10, 13 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Autry et al. (US 5,724,106) in view of Hall et al. (US 5,703,623) and further in view of Schuster et al. (5,623,099).

With respect to claims 10 and 13, Hall and Autry disclose the image controller of claims 9 and 12 (see above).

Hall discloses that the proportional sensor is a piezoelectric sensor (col. 9, lines 19-20).

Neither Hall nor Autry disclose that the proportional sensor is a capacitive type.

Schuster discloses, proportional sensors which are of a capacitive type (col. 1, lines 42-50)

Schuster, Hall and Autry are analogous art because they are all from the same field of endeavor namely directional sensors.

At the time of the invention it would have been obvious to one of ordinary skill in the art to replace the piezoelectric sensors of Hall with the capacitive accelerometers of Schuster.

The motivation for doing so would have been to overcome the very high input impedance necessary for piezoelectric sensors and provide a sensor more resistive to electrostatic interference (Schuster; col. 1, lines 29-50).

With respect to claim 15, Autry, Schuster and Hall disclose the image controller of claim 13 (see above).

Neither Schuster nor Autry expressly disclose a second proportional sensor indicating rotation of the single input member (5 in figs. 2-3a; col. 7, lines 1-9).

Hall further discloses a second proportional sensor indicating rotation of the single input member (5 in figs. 2-3a; col. 7, lines 1-9).

Schuster, Hall and Autry are analogous art because they are all from the same field of endeavor namely directional sensors.

At the time of the invention it would have been obvious to one of ordinary skill in the art to include the three-dimensional imagery and three-dimensional movement sensors taught by Hall in the device of Autry.

The motivation for doing so would have been low manufacturing cost and to meet future 3D multimedia applications (Hall; col. 1, lines 34-43).

(10) Response to Argument

First as an overview, there are currently two sets of rejections which both reject all of the claims 9-19. The Copper / Imai / Elliott / Cox rejections have prior art dates that are not in question and have only been appealed by the applicant on art grounds.

The Autry / Hall / Schuster rejections have been appealed by the applicant on art grounds. The Autry / Hall / Schuster rejections, however, are also appealed on the grounds that at least one of the references is not a valid prior art reference in view of the newly submitted 37 C.F.R. 1.131 declaration

With this framework in mind we first turn to the Copper / Imai / Elliott / Cox rejection set.

1. Independent claim 9

a. failure to teach all the elements

On pages 10-11 of the Appeal Brief the applicant argues that Copper does not disclose, “a single input member capable of being manipulated in six degrees of freedom by a human hand.” Applicant argues that Copper is merely capable of controlling movement of two-dimensional imagery.

The examiner agrees that Copper merely discloses the control of two-dimensional imagery. This admission, however, does not negate the fact that Copper discloses the claimed phrase. All that claim 9 requires is that the single input member be "capable of being manipulated in six degrees of freedom by a human hand." Notably there is no requirement that the single input member detect, sense or otherwise determine the movement of the single input member in six degrees of freedom. Without such a limitation, it should be clear that Copper’s handheld controller is capable of motion in six degrees of freedom.

On page 11 of the Appeal Brief the applicant argues that neither Copper nor Imai teach “a secondary input member capable of being controlled by the human hand to effect bidirectional movement of the three-dimensional imagery on at least one axis independent of the control of three-dimensional imagery by the single input member.” Applicant argues that Imai’s rotary ring can only be used to teach “bidirectional movement of the three-dimensional imagery on an axis that is <u>not</u> controlled by the single input member.”

The examiner agrees that Imai’s rotary ring only teaches bidirectional movement of the 3D imagery on the Z axis. However again such an admission does not preclude a teaching of the claim limitations at issue. The proposed combination is to incorporate the rotary ring of Imai, which provides Z axis control into the device of Copper which already provides the X / Y axis control. The rotary ring is an input member capable of being controlled by a human hand and it controls bidirectional movement of the 3D imagery on the Z axis which is independent of the X / Y input controller already present in Copper and Imai. As such the combination of Copper and Imai would seem to meet all the claimed phrase.

b. references are not properly combinable

On page 12 the applicant argues that to include the rotary ring of Imai in the device of Copper would "result in a control that is not operable as intended by Copper."

The examiner respectfully disagrees. It seems a simple matter and one that is well-within the skill level of one of ordinary skill to incorporate the rotary ring into the device of Copper. Furthermore, Copper's goal is control cursor position on a display. With the introduction of 3D graphics, it would seem in line with Copper's goals to provide a manner to control Z axis movement of the cursor.

On page 13, the applicant traverses that the motivations for the combination are vague and unsupported. Specifically arguing that the increased functionality motivation is “meaningless.”

The examiner respectfully disagrees. The combination of Copper's input device and the 3D imagery of Imai, would almost necessitate a way to control a cursor in the Z direction. Imai provides an input member, independent of the X / Y input controller, which does just that. The incorporation of additional functionality into a single device has been a motivator throughout history. To argue that one would not be motivated to combine the functions of two analogous controllers into a single device seems incompatible with common principles of device design.

2. Claim 11

On page 14, the applicant again traverses the rejection on grounds that the motivation of incorporating the channel buttons of Elliott into the Copper / Imai device is not sufficient.

The examiner maintains that increasing the functionality of a device so as to control an analogous device is sufficient motivation. The Copper / Imai device is displayed on CRTs which are certainly capable of displaying video and TV imagery. It seems obvious to the examiner to incorporate the TV controls taught by Elliott into the device of Copper / Imai.

3-7. Claims 12-18

The remaining sections in section C merely repeat arguments previously addressed above.

D.1 Claim 10

On page 19, the Applicant argues that the motivation for replacing the resistive sensors of Copper with the capacitive sensors of Cox is not sufficient.

First, it should be noted that Cox expressly details the advantages of his capacitive sensors in the cited portion of the specification (col. 2, lines 24-27). Furthermore, even if the motivation stated expressly in Cox is not sufficient, it would seem that the simple substitution of the capacitive sensors of Cox for the resistive sensors of Copper would be well within the skill of one of ordinary skill in the art. Furthermore, such a substitution would most certainly provide predictable results.

2. Claim 13

On page 20 of the Appeal Brief, the applicant merely repeats the above arguments regarding the motivation behind combining the Cox reference with Copper, Imai and Elliott.

3. Claim 15

On page 21, the applicant argues that Copper does not each "a second proportional sensor indicating rotation of the single input member." Specifically the applicant takes issue with the fact that the pivoting of the Copper member is merely translated to X axis input and not a rotational value.

It is again important to keep in mind the exact language of the limitation. The claim only requires that the sensor indicate rotation of the input member. There is no requirement that the sensor indication rotation of the input member to manipulate the 3D imagery in a corresponding rotational movement. Copper's input member pivots and the rotation is then detected by a sensor. The use of the detected rotation to control X axis movement is immaterial to the claim limitations.

E.1 Autry and Hall Prior Art Status

On pages 22-23, the applicant argues that the provided declarations are sufficient to prove conception of the claimed invention at least as early as January 24^{th}, 1996, thereby antedating the Autry and Hall references. As proof of the conception the applicant provides US 5,565,891 which has a filing date of February 23rd, 1995.

As background the current application is one application in a chain of applications. The current application 10/773,025 is a CIP of 09/893,292 which is a CON of 09/721,090 which is a CON of 08/677,378. Interestingly, this is all the domestic priority that the applicant has claimed in the present application, despite the fact that 08/677,378 is a valid CIP of US 5,565,891. In other words, applicant has intentionally limited his priority claim. Presented with prior art between the claimed priority date and the earlier parent applications, applicant has submitted the declaration to antedate the references.

It is the examiner's understanding that the filing of the US 5,565,891 cannot be relied upon for anything other than evidence of conception. To antedate a reference the applicant must show diligence from the date of conception to at least the prior art date. As such the applicant must show diligence from 2/23/95 [the filing date of US 5,565,891] to 1/24/96. The only showing applicant has of diligence is a signed declaration stating, "I worked diligently." Again it is the examiner's understanding that a general allegation of a legal conclusion of diligence is insufficient. The applicant must provide detailed explanation of activities directed to either the actual reduction to practice of the present invention or the filing of this application.

With US 5,565,891 only available to show proof of conception and no proof of diligence from conception to the prior art date, Autry and Hall are still seen as prior art.

2. failure to teach all the elements

On page 24, the applicant argues that both Autry and Hall have failings in disclosing claim limitations. First the applicant argues that Autry cannot disclose an input member capable of effecting bidirectional movement of three-dimensional imagery if Autry does not disclose three-dimensional imagery.

The examiner has never argued that Autry discloses three-dimensional imagery. Rather Autry is seen as disclosing an input member capable of effecting bidirectional movement of two-dimensional imagery. It is part of the combination, of Hall and Autry to also incorporate the three-dimensional imagery of Hall into the system of Autry. It is upon the combination that Autry's input member will effect bidirectional movement of three-dimensional imagery.

Applicant also argues that it is Hall's device that is capable of being manipulated in six degrees of freedom and not an input member. As such Hall cannot be said to disclose the claimed input member.

The examiner respectfully disagrees. There are no claimed limitations on what can be construed as the single input member. While Hall contains accelerometers which determine movement, they are still seen as reading on the broad language of a "single input member." In other words there is no claim requirement that the six degrees of freedom be in reference to some other portion of the image controller.

3. no motivation to combine

On pages 24-25, the applicant argues that the supplied motivation for the Autry / Hall combination is insufficient and improper. Specifically arguing that there is no showing that costs would be lowered and that "to meet future 3D multimedia applications" is either illusory or based on hindsight.

The examiner again respectfully disagrees. Hall expressly states the need and motivation behind his own 3D image controller stating that it works to meet "future 3D multimedia applications." While the examiner agrees that this does not disclose the exact applications, it does nonetheless disclose the motivation and need in the industry for a 3D image controller to control 3D multimedia applications. It is this need that is seen as the primary motivation behind the combining of Autry and Hall.

4. dependent claims

On page 25, the applicant merely argues that claims 11 and 14 are patentable merely for being dependent upon the above discussed independent claims.

F. Autry / Hall / Schuster combination

On pages 25-26 of the Appeal Brief, the applicant merely repeats arguments that Autry and Hall are not valid prior art and as such claims 10, 13 and 15 are allowable. As discussed above, the examiner maintains that Autry and Hall are still prior art.

G. Conclusion

For all of the reasons discussed above, the rejections of claims 9-19 should be upheld.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

(12) Conclusion

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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